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EXAMINER	
KANG, INSUN	

ART UNIT	PAPER NUMBER
2193	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,247	TUMATI, PRADEEP	
	Examiner	Art Unit	
	Insun Kang	2193	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the amendment filed 6/27/2005.

2. As per applicant's request, claims 17 and 33 have been amended. Claims 1-34 are pending in the application.

Specification

3. The objection to the specification has been withdrawn due to the amendment to the Specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Marron (US Patent 5,359,730).

Per claim1:

Marron discloses:

-generating an initial version of object code from an initial version of source code created by a computer programmer so that the initial version of object code (i.e. "non-disruptively replacing old operation system programs or modules with new updated

versions thereof while providing continuous availability and operation of the system," abstract; "the change modules," col. 7 lines 1-3)

-a computer readable medium; and, a set of computer readable instructions embodied in said computer readable medium for: creating an initial version of source code (i.e. "the new programs are created," col. 6 lines 50-59)

- storing said initial version of source code within said computer readable medium (i.e. "The new versions are loaded into the system along with change instructions providing information controlling the update," abstract)

- segmenting said initial version of source code by creating initial grain boundaries that define initial grains having predetermined segments of code within said initial version of source code (i.e. "change modules," col. 7 lines 1-3)

- translating said initial version of source code to an initial version of object code, said object code having object grain boundaries and object grains corresponding to said initial grain boundaries and said initial grains respectively so that initial object code is provided that can be subsequently modified without halting its execution (i.e. see fig. 4; "copies of the new programs A' and B' from the library into memory in such a manner that the new programs are initially "hidden" from the rest of the system; "pass control to the...program for execution," col. 8 lines 32-37) as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Marron teaches:

- instructions for making available said initial grain boundaries to the computer programmer for inspection and review so that the computer programmer can preview

said initial grains (i.e. col. 7 lines 61-66; col. 8 lines 32-37).

Per claim 3:

The rejection of claim 1 is incorporated, and further, Marron teaches:

- instructions for modifying said initial grain boundaries of said initial version of source code so that said initial grains of the initial version of source code can be modified so that the computer programmer can modify said grains (i.e. col. 7 lines 61-66; col. 8 lines 32-37).

Per claim 4:

The rejection of claim 1 is incorporated, and further, Marron teaches:

- instructions for storing said initial grain boundaries and said object code in said computer readable medium for subsequent retrieval when performing modifications to said initial object code (i.e. " storing in such address pointers to the new code," col. 8 lines 49-52; 43-44)

Per claim 5:

The rejection of claim 1 is incorporated, and further, Marron teaches:

- instructions for verifying lexical information of said initial version of source code so that lexical errors may be identified in said source code prior to its translation (col. 8 lines 5-14; col. 7 lines 3-11).

Per claim 6:

The rejection of claim 1 is incorporated, and further, Marron teaches:

- instructions for verifying syntactical information of said initial version of source code so that syntactical errors may be identified in said source code prior to its translation (col. 8

lines 5-14; col. 7 lines 3-11).

Per claim 7:

The rejection of claim 1 is incorporated, and further, Marron teaches:

-retrieving said initial version of source code from said computer readable medium, creating a second version of source code from said initial version of computer readable medium having second grain boundaries defining second grains, and, mapping said initial grain boundaries of said initial version of source code onto said second grain boundaries of said second version of source code so that differences between said initial grains and said second grains can be determined (i.e. see fig. 4; "copies of the new programs A' and B' from the library into memory in such a manner that the new programs are initially "hidden" from the rest of the system; "pass control to the...program for execution," col. 8 lines 32-37; col. 7 lines 61-66; col. 8 lines 32-37) as claimed.

Per claim 8:

The rejection of claim 1 is incorporated, and further, Marron teaches:

- presenting varying compiler optimization levels according to said initial grain boundaries of said initial version of source code, and, receiving an optimization level selection for translating said initial version of source code to an initial version of object code (col. 7 lines 61-66; col. 8 lines 32-37).

Per claim 9:

The rejection of claim 8 is incorporated, and further, Marron teaches:

-storing said selected optimization level within said computer readable medium for subsequent retrieval (i.e. " storing in such address pointers to the new code," col. 8 lines 49-52; 43-44)

Per claim 10:

The rejection of claim 1 is incorporated, and further, Marron teaches:

-a crumb associated with said object grain having an active and inactive state so that said object grain will be modified when said crumb is in said active state without halting the execution of said object code ("installs traps...at all safe points...determine ...whether program A or program A' should be executed," col. 8 lines 5-35; "initially marks all process and tasks as ...unsafe," col. 7 lines 52-67).

Per claim 11:

Marron discloses:

- modifying a first version of object code having first grain boundaries and first grains, stored in a computer readable medium, to a second version of object code (i.e. "non-disruptively replacing old operation system programs or modules with new updated versions thereof while providing continuous availability and operation of the system," abstract; "the change modules," col. 7 lines 1-3)

-a set of computer readable instructions embodied within said computer readable medium for: retrieving said first version of source code from said computer readable medium, duplicating said first version of source code into a second version of source code within said computer readable medium (i.e. see fig. 4; "copies of the new

programs A' and B' from the library into memory in such a manner that the new programs are initially "hidden" from the rest of the system; "pass control to the...program for execution," col. 8 lines 32-37)

-creating second grain boundaries associated with said second version of source code defining second grains (i.e. "The new versions are loaded into the system along with change instructions providing information controlling the update," abstract)

-mapping said first grains onto said second grains, editing said second version of source code, translating said second version of source code to a second version of object code while maintaining said mapping of said first and second grains (i.e. "The new versions are loaded into the system along with change instructions providing information controlling the update," abstract)

-creating a dynamic list of first grains and corresponding second grains for at least those first grains to be modified according to said second version of source code (i.e. "store load modules...and change-instructions...in program library," col. 7 lines 49-51; "to determine...whether program A or program A' should be executed," col. 8 lines 32-35; "storing in such address pointers to the new code," col. 8 lines 49-52)

-creating a dictatorial having at least one dictum according to said dynamic list and at least a portion of said second version of object code (i.e. "store load modules...and change-instructions...in program library," col. 7 lines 49-51; col. 8 lines 32-35)

-generating a hot pack according to said dictatorial and at least a portion of said second version of object code so that said hot pack can be distributed in order to modify said first version of object code to said second version of object code without halting the

execution of said first version of object code (i.e. "storing in such address pointers to the new code," col. 8 lines 49-52; see fig. 4; "copies of the new programs A' and B' from the library into memory in such a manner that the new programs are initially "hidden" from the rest of the system; "pass control to the...program for execution," col. 8 lines 32-37) as claimed.

Per claim 12:

The rejection of claim 11 is incorporated, and further, Marron teaches:

- instructions for editing said second grain boundaries so that said second grains can be modified (i.e. "change modules," col. 7 lines 1-3)

Per claims 13-16:

These claims are another versions of the claimed method discussed in claims 5, 6, 8, 9, wherein all claim limitations also have been addressed and/or covered in cited areas as set forth the above.

Per claim 17:

The rejection of claim 11 is incorporated, and further, Marron teaches:

- instructions for adding dictums to said dictatorial so that the computer programmer may modify said dictatorial (i.e. "storing in such address pointers to the new code," col. 8 lines 49-52; see fig. 4; "copies of the new programs A' and B' from the library into memory in such a manner that the new programs are initially "hidden" from the rest of the system," col. 8 lines 32-37) as claimed.

Per claim 18:

The rejection of claim 11 is incorporated, and further, Marron teaches:

- modifying said dynamic list so that the computer programmer may modify said dynamic list (i.e. "storing in such address pointers to the new code," col. 8 lines 49-52; see fig. 4; "copies of the new programs A' and B' from the library into memory in such a manner that the new programs are initially "hidden" from the rest of the system," col. 8 lines 32-37) as claimed.

Per claims 19-28, they are the system versions of claims 1-10, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1-10 above.

Per claims 29-34, they are the system versions of claims 11, 12, and 15-18, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 11, 12, and 15-18 above.

Response to Amendment

6. The amendments to the claims filed on 6/27/2005 do not comply with the requirements of 37 CFR 1.121(c) because:

The abstract was not presented on a separate sheet. See 37 CFR 1.72. A new abstract on a separate sheet is required.

Response to Arguments

7. Applicant's arguments filed 6/27/2005 have been fully considered but they are not persuasive.

Per claims 1 and 11:

The Applicant states that:

1) In contrast to Marron, the present invention could be used to suspend the "old program" of Marron, update the "old program", and resume the "old program." By using the present invention, the functionality of Marron is not needed since there is not a "new program" in the present invention, and the present invention does not route processes from one independent and separately executing program to another (page 14) and Marron does not anticipate suspending the target software application (page 22).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., suspending the old program (page 14), suspending the old or new program, the target software application (page 21), placing the old or new program in a wait state... (page 22) etc) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

2) Marron does not claim or disclose the creation of initial source code nor segmenting the initial source code...The present invention, however, is used to create an initial version of source code...Marron only discloses the creation of a new program which is not the initial version of source code. Initial means first and Marron does not claim or disclose the creation of the first version, i.e., the "old program" of Marron (page 14).

Marron's "old program" is initially created before updating it (creating the corresponding "new program"). Regarding segmenting the initial source code into grains, a program consists of one or more of program block units. These blocks are

considered as grains /segments. The claim does not further limit the size of the segments/grains. Therefore, segments/grains can be considered to be anything from the entire program unit, a smallest translation unit (or modules), or even a basic block. If applicant means anything more, this must be brought out in the claims to further clarify the invention.

3) Marron does not suspend the old program in mid execution, but rather routes processes (Remark, page 15).

In response, again, the applicant is arguing about the limitation that is not recited in the claims.

4) Marron does not anticipate mapping first version grains onto second version grains (page 16) and Marron does not modify an executing application (page 19).

In response, Marron discloses the dynamic replacement of the program modules without stopping the execution ("The running code ...the old version which is being changed...should not have required or otherwise undergone a restructure...in order to position it for the dynamic change at hand," col. 2 lines 61-67; col. 3 lines 1-5).

5) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., suspending the old program (page 17), display of grain boundaries to a computer programmer (page 17), second version grain of the present invention is a segment of the target software application, second version grains are not separate and independent software applications but are replacement segments of the target software application (page 19-20),) are not recited in the rejected claim(s). Although the claims are

interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6) Marron does not anticipate a hot pack....The invention ...directs modification to the target software application...through replacement grains...targeted to the target software application contained in the hot pack...rather than routing tasks from old programs to new programs (page 18). The present invention modifies the target software application through the use of hot pack (page 19)

In response, the claims do not specifically recite what the hot pack is. Therefore, Marron's new modules that are replaced with old modules can be considered as the hot pack. If applicant means anything more, this must be brought out in the claims to further clarify the invention.

7) Marron does not claim or disclose the modification of a first version grain to a second version grain according to a dictum (page 20).

In response, although the applicant defines the dictum that "determines when and how the modification of the first version grain should occur...does not determine which of two simultaneously existing programs (A and A') should have a process routed to it (page 20)," this limitation is not recited in the claim. Therefore, Marron's machine readable change-instructions (Marron, col. 6 lines 50-59) which "identify all entry points in the old programs and all safety points...being the events or conditions which make a process eligible for executing the new code" can be considered as the dictum. If applicant means anything more, this must be brought out in the claims to further clarify the invention.

8) Marron's safety points do not anticipate crumbs where the crumbs are "physical locations within a grain that can be used to determine when the execution pointer hits a predetermined point in the execution of the target software application (page 21 and 23).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the crumbs are "physical locations within a grain that can be used to determine when the execution pointer hits a predetermined point in the execution of the target software application etc) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Therefore, Marron's safety points can be considered as crumbs for determining if the new modules are safe (i.e. evaluating the change instruction module) and determining when the execution pointer hits a predetermined point (col. 7 lines 38-40).

Accordingly, in view of the broadest reasonable interpretation above, Marron discloses the limitations in the claims, therefore, the rejection of claims 1-34 is maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-F 7:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 571-272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

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